tion, a significant amount of industrial activity, extensive use of agricultural and household chemicals including fertilizers and pesticides, widespread use of septic systems, leaking underground storage tanks, and heavy withdrawals of ground water have led to numerous and extensive ground water quality and quantity problems. From 1976 to 1981, some of the approximately 1000 major public drinking water wells were closed or restricted because of contamination from synthetic organic chemicals. In addition, nearly 1300 private wells were contaminated above the state guideline of 7 ppb by the agricultural pesticide, Temik. In the upper glacial aquifer, salt water encroachment is a current problem on the islands and peninsulas of eastern Suffolk County and is a potential problem along all of Long Island's shores. Septic systems and agricultural and lawn fertilizers have resulted in increased chloride and nitrate concentration over extensive areas. Pesticides, industrial wastes, and landfill leachates have contributed to contamination problems of the uppermost aquifer in many areas.

The Magothy aquifer directly underlying the glacial aquifer also has salt water encroachment problems in some areas and current and potential contamination problems from organic chemicals, such as chlorinated solvents, in many locations. The deeper Lloyd aquifer is less subject to contamination by humanly introduced chemicals and also is affected in some areas by salt water intrusion. The Lloyd aquifer is by present policy generally restricted for use by only coastal communities that cannot use the shallower formations due to chemical or saline contamination.

Ground Water Quality Considerations

Nassau County, unlike Suffolk, has an added concern regarding the total volume of water withdrawn from the aquifer and consumed, Approximately half of all water withdrawn by public water suppliers is discharged after use into the sewer systems in the county. This water is treated and released into marine water, thereby lost for reuse through recharge, Additionally, ground water mining is occurring in those parts of the county with higher population densities. Over 50 percent of the county's 1.3 million residents rely on ground water mining practices. The consequences of excessive withdrawals include the loss of stream flows, the drying of lakes and ponds, a lowering of the water table, the increased spread of chemical contamination to deeper portions of the aquifer and the destabilization of the fresh water/salt water interface, leading to salt water intrusion.